

**Sodium hexanitrocobaltate(III) a.r.**

Revision: 11.06.2024

Product code: AC14.01071

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Sodium hexanitrocobaltate(III) a.r.

CAS No: 13600-98-1  
EC No: 237-077-7

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet****Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: N-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Belgium NV  
Street: Industriezone "De Arend" 2  
Place: B-8210 Zedelgem  
Telephone: +32 50 28 83 20  
E-mail: info.be@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Responsible Department: AnalytiChem:  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333  
+44 20 3807 3798 (CHEMTREC)

**1.4. Emergency telephone****number:****Further Information**

A registration number is not available for this substance as the substance or its use are exempted from

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registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Ox. Sol. 2; H272

Carc. 2; H351

Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008**

Signal word: Warning

Pictograms:

**Hazard statements**

H272 May intensify fire; oxidiser.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

**Precautionary statements**

P280 Wear protective gloves/protective clothing and eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.1. Substances**Sum formula: Na<sub>3</sub>[Co(NO<sub>2</sub>)<sub>6</sub>]

Molecular weight: 403,93 g/mol

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
13600-98-1	trisodium hexanitritocobaltate			100 %
	237-077-7			
	Ox. Sol. 2, Carc. 2, Skin Sens. 1; H272 H351 H317			

Full text of H and EUH statements: see section 16.

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

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**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

No data available

**After inhalation**

Provide fresh air.

Call a physician immediately.

**After contact with skin**

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

Allergic reactions

Gastrointestinal complaints

Blood pressure drop

Methaemoglobin formation

Causes damage to organs. (kidneys, heart, pancreas)

Symptoms of acute cobalt poisoning: Diarrhoea, loss of appetite, drop in body temperature, drop in blood pressure, toxic effects on the kidneys (albuminuria, anuria), heart and pancreas.

**4.3. Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Non-combustible solids

Oxidizing

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx)

Metal oxide smoke, toxic

**5.3. Advice for firefighters**

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Use water spray jet to protect personnel and to cool endangered containers.

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**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Avoid dust formation. Do not breathe dust.

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Avoid exposure - obtain special instructions before use.

Read label before use.

Handle and open container with care.

Provide adequate ventilation.

Avoid contact with skin, eyes and clothes.

Avoid dust formation. Do not breathe dust.

**Advice on protection against fire and explosion**

Keep away from combustible material.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Advice on general occupational hygiene**

Take off contaminated clothing.

Wash hands before breaks and after work.

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When using do not eat or drink.

**Further information on handling**

Draw up and observe skin protection programme.

Take off contaminated clothing and wash it before reuse.

Wash hands before breaks and after work.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed and dry.

Keep away from combustible material.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

Take national regulations into account.

**Further information on storage conditions**

storage temperature: < +30°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

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The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Respiratory protection**

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Thermal hazards**

No data available

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	yellow - brown
Odour:	like: Nitric acid
Odour threshold:	No data available
Melting point/freezing point:	220 °C
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	X
Auto-ignition temperature:	No data available
Decomposition temperature:	not determined
pH-Value (at 20 °C):	~5 (100 g/l)
Viscosity / kinematic:	No data available
Water solubility: (at 20 °C)	720 g/l
Solubility in other solvents	not determined
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	No data available
Relative density:	No data available
Bulk density:	~480 kg/m <sup>3</sup>
Relative vapour density:	not determined
Particle characteristics:	No data available

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

No data available

**Sustained combustibility:**

No data available

**Self-ignition temperature**

Solid:

not determined

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Gas:

not applicable

Oxidizing properties

The product is: oxidising, Oxidising.

Category 3

**Other safety characteristics**

Evaporation rate:

not determined

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

100%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Possibility of hazardous reactions. oxidising, Oxidising.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Acid

Reducing agent

Combustible substance

Amines

**10.4. Conditions to avoid**

Heat

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

In case of fire may be liberated:

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

Avoid exposure - obtain special instructions before use.

**Acute toxicity**

Based on available data, the classification criteria are not met.

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

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**Sensitising effects**

May cause an allergic skin reaction. (trisodium hexanitritocobaltate)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing cancer. (trisodium hexanitritocobaltate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards****Endocrine disrupting properties**

No data available

**Other information**

No data available

**Further information**

Allergic reactions

Gastrointestinal complaints

Blood pressure drop

Methaemoglobin formation

Causes damage to organs. (kidneys, heart, pancreas)

Symptoms of acute cobalt poisoning: Diarrhoea, loss of appetite, drop in body temperature, drop in blood pressure, toxic effects on the kidneys (albuminuria, anuria), heart and pancreas.

**SECTION 12: Ecological information****12.1. Toxicity**

Based on available data, the classification criteria are not met.

**12.2. Persistence and degradability**

No data available

**12.3. Bioaccumulative potential**

No data available

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

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No data available

**Further information**

Avoid release to the environment.

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

Do not mix with other wastes.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1479
<b><u>14.2. UN proper shipping name:</u></b>	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
<b><u>14.3. Transport hazard class(es):</u></b>	5.1
<b><u>14.4. Packing group:</u></b>	II
Hazard label:	5.1
Classification code:	O2
Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2
Transport category:	2
Hazard No:	50
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1479
<b><u>14.2. UN proper shipping name:</u></b>	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
<b><u>14.3. Transport hazard class(es):</u></b>	5.1
<b><u>14.4. Packing group:</u></b>	II
Hazard label:	5.1
Classification code:	O2
Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2

**Marine transport (IMDG)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1479
<b><u>14.2. UN proper shipping name:</u></b>	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
<b><u>14.3. Transport hazard class(es):</u></b>	5.1
<b><u>14.4. Packing group:</u></b>	II
Hazard label:	5.1
Special Provisions:	274, 900
Limited quantity:	1 kg
Excepted quantity:	E2

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EmS:	F-A, S-Q
<b>Air transport (ICAO-TI/IATA-DGR)</b>	
<b>14.1. UN number or ID number:</b>	UN 1479
<b>14.2. UN proper shipping name:</b>	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Special Provisions:	A3 A803
Limited quantity Passenger:	2.5 kg
Passenger LQ:	Y544
Excepted quantity:	E2
IATA-packing instructions - Passenger:	558
IATA-max. quantity - Passenger:	5 kg
IATA-packing instructions - Cargo:	562
IATA-max. quantity - Cargo:	25 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: Oxidising substances.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**Information according to Directive  
2012/18/EU (SEVESO III): P8 OXIDISING LIQUIDS AND SOLIDS**National regulatory information**Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).  
Water hazard class (D): 2 - obviously hazardous to water**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2,5,6,8,9,10,11,12,14,15.

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**Abbreviations and acronyms**

Ox. Sol. 2: Oxidising solids, hazard category 2

Ox. Sol. 3: Oxidising solids, hazard category 3

Skin Sens. 1: Skin sensitisation, hazard category 1

Carc. 2: Carcinogenicity, hazard category 2

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H272 May intensify fire; oxidiser.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users